

REMARKS

Claim 1 has been amended to include the subject matter of claims 4, 5 and 6.

Claims 4, 5 and 6 have been cancelled.

Claims 1, 2, 7-10, and 12-15 are pending in the application. Claims 7-10 and 12 have been withdrawn from consideration. Favorable reconsideration of the application in view of the following remarks is respectfully requested

Relying on 35 U.S.C. 102(b), the Examiner rejected claims 1, 5, 6, 13, and 15 as being anticipated by Himeshima et al. (US 2001/0004469).

Examiner points to [0062] as disclosing a second electrode which can be composed of an alloy of platinum, gold, silver, copper, iron, tin, aluminum, magnesium or indium and [0093] as indicating that the second electrode can be deposited using a single evaporation source. This is incorrect. Paragraph [0062] states:

“it is preferable to use a metal such as platinum, gold, silver, copper, iron, tin, aluminum, magnesium or indium, etc., or an alloy consisting of any of these metals and a low function work metal”

Clearly, Himeshima does not disclose an electrode of an alloy of a combination of any of platinum, gold, silver, copper, iron, tin, aluminum, magnesium or indium together but rather an electrode made of any one of these metals alone or an alloy of any of these metals with a low work function metal. A low function work metal is defined by Himeshima as an alkali metal (see [0062], 7th line).

The vapor pressure (at 750°C) of platinum, gold, silver, copper, iron, tin, aluminum or indium are all greater than 10^{-4} torr although magnesium is > 1 torr. The vapor pressure of the alkali metals (for example, Li, Na and K) are all approximately 1 torr or greater. Thus, all of the disclosed alloys, with the exception of magnesium and alkali metal, have differences in vapor pressure that are greater than 2 orders of magnitude. The vapor pressures of these metals can be found in the references www.veeco.com/images/library/vaporpress1B_large.jpg and www.veeco.com/images/library/vaporpress2B_large.jpg) as used in previous Office Actions.

Himeshima does not disclose any of the alloys as set forth in amended claim 1 and so, there is no anticipation. For this reason, Applicants therefore

respectfully request that the Examiner reconsider and withdraw the rejection of the claims under 35 U.S.C. 102(b).

Applicants note that in terms of the teachings of Himeshima concerning a single evaporation source for the electrode alloy, paragraph [0093] states:

“Vapor deposition from one source can be adopted, but to make the second electrode less likely to be divided by reinforcing lines, it is effective to evaporate the second electrode material in a plurality of different directions.....it is preferable to in view of process to evaporate the second electrode material from a plurality of evaporation sources”

and

“Furthermore, a low vacuum process such as sputtering evaporation is preferable”

Clearly, Himeshima specifically teaches away from using a high temperature vacuum evaporation single source method for the preparation of the electrode and prefers not to use it at all.

Relying on 35 U.S.C. 102(b), the Examiner rejected claims 1, 5, 13, and 15 as being anticipated by Nakamura (WO 97/08744 and English equivalent US 2004/0238891).

Examiner points to [0023] as indicating a single evaporation source. This is incorrect. Paragraph [0023] states (emphasis added):

“In case of making these metal films, metal nitride film and refractory metal film by a vacuum evaporation method, either a single evaporation source comprising the same material as that of one of these films or a plurality of evaporation sources each comprising respective elements constituting one of these films may be used.”

Thus, Nakamura never teaches that one source can be used to evaporate different materials. Instead, Nakamura teaches that each material needs a single evaporation source and that more than one material needs a plurality of sources.

Nakamura does not disclose a single evaporation source for any of the alloys as set forth in amended claim 1 and so, there is no anticipation. For this reason, Applicants therefore respectfully request that the Examiner reconsider and withdraw the rejection of the claims under 35 U.S.C. 102(b).

Claims 1, 5-6, 13, and 15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hosokawa et al. (US 2003/0018218) in view of Liao et al. (US 2003/0152801).

Applicant has previously argued that the Mg/Ag and Ag/Al alloys of Liao cannot be evaporated from a single source because of the large differences in vapor pressure between the two. In response to Applicant's arguments concerning Hosokawa and Liao, Examiner states that the grounds of rejection 'are based on the combination of 1) Hosokawa and Liao and 2) Grace, Hosokawa and Liao. One cannot show nonobviousness by attacking references individually'.

As argued previously, Hosokawa et al discloses devices with electrodes of metal alloys such as Al/Au or Al/Ag but there is no teaching or suggestion of using a single evaporation source for the evaporation of both individual metals together. Liao et al teaches that the formation of Mg alloy cathodes requires two separate evaporation sources and points out that a single source would be less complicated *but does not teach how to accomplish this*. The Mg/Ag or Mg/Al alloys taught by Liao cannot be used in a single evaporation source as discussed in the previously submitted 1.132 declarations. Since Liao teaches that his alloys require that separate evaporation sources for each material used and the use of a single source of both materials would result in an inoperative device, one skilled in the art would have no motivation to attempt to use a single source as suggested by Liao for the alloys of Hosokawa. There is nothing in the combination of Hosokawa and Liao that teaches and suggests that the combinations of alloys as set forth in amended claim 1 would not result in an inoperative device. In effect, knowing the disclosures of Liao, one skilled in the art would have little expectation of success for creating an alloy electrode by using a single evaporation source.

In view thereof, it follows that the subject matter of the claims would not have been obvious of Hosokawa et al. in view of Liao et al. at the time the invention was made.

Claims 1, 4-6, 13, and 15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Grace et al. (US 2002/0196401) in view of Hosokawa et al. and Liao et al.

Hosokawa and Liao have been discussed above. Grace teaches the use of metal alloys, including some of the inventive combinations, as electrodes in display

devices. Grace does not teach that the metals for the alloy can be placed in a single evaporation source. Thus, even with the addition of Grace, there still are no teachings or suggestions that the combinations of alloys as set forth in amended claim 1 would result in an operative device with any expectation of success. In view thereof, it follows that the subject matter of the claims would not have been obvious of Grace et al. in view of Hosokawa et al. and Liao et al. at the time the invention was made.

Claims 1, 4-6, 13, and 15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Grace et al. in view of Himeshima.

Grace and Himeshima have been discussed above. For the same reasons given above, the subject matter of these claims would not have been obvious of Grace et al. in view of Himeshima at the time the invention was made.

Claim 2 stands rejected under 35 U.S.C. 103(a) as being unpatentable over:

- Hosokawa in view of Liao and further in view of Yamamoto et al. (US 6,179,923);
- Grace in view of Hosokawa and Liao and further in view of Yamamoto;
- Grace in view of Himeshima and further in view of Yamamoto;
- Himeshima and further in view of Yamamoto; and
- Nakamura and further in view of Yamamoto.

Liao, Hosokawa, Grace, Himeshima and Nakamura have been discussed above. Yamamoto teaches vapor evaporation processes corresponding to steps a) to d) of claim 2. For the reasons given above, claim 1 is believed to contain novel and unobvious subject matter and should be allowable. Claim 2 is dependent on claim 1, which is the only independent claim. For this reason, claim 2 contains patentable subject matter and should also be allowable

Claim 14 stands rejected under 35 U.S.C. 103(a) as being unpatentable over:

- Hosokawa in view of Liao and further in view of Yamazaki et al. (US 2003/0162314);
- Grace in view of Hosokawa and Liao and further in view of Yamazaki;
- Grace in view of Himeshima and further in view of Yamazaki;
- Himeshima and further in view of Yamazaki; and

- Nakamura and further in view of Yamazaki.

Liao, Hosokawa, Grace, Himeshima and Nakamura have been discussed above. Yamazaki teaches vapor evaporation processes where there are multiple compartments and that evaporation sources can be placed separately into the compartments. For the reasons given above, claim 1 is believed to contain novel and unobvious subject matter and should be allowable. Claim 14 is ultimately dependent on claim 1, which is the only independent claim. For this reason, claim 14 contains patentable subject matter and should also be allowable

Applicants have reviewed the prior art made of record and believe that singly or in any suitable combination, they do not render Applicants' claimed invention unpatentable.

In view of the foregoing remarks and amendment, the claims are now deemed allowable and such favorable action is courteously solicited. Should the Examiner consider that additional amendments are necessary to place the application in condition for allowance, the favor is requested of a telephone call to the undersigned counsel for the purpose of discussing such amendments.

Respectfully submitted,



Raymond L. Owens
Attorney for Applicant(s)
Registration No. 22,363

RLO:
Rochester, NY 14650
Telephone: (585) 477-4653
Facsimile: (585) 477-4646

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.

U.S. Serial No. 10/775,360